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ABSTRACT

A series of nine conferences were held to determine how representatives of local businesses and industries across the U.S. view the kinds of skills that are occupationally transferable, and to identify the types of skills important in their firms' work settings in qualifying for job transfers and progressions. Conference participants were persons from a variety of business and industry contexts who had experience in personnel administration and a good understanding of their firms' personnel policies and policy rationale. Each conference centered around four topics: (1) personal occupational experiences and skills, (2) patterns of occupational mobility, (3) assessment of transferable skills, and (4) usefulness of the transferable skills concept. Results of the conferences indicated that communicating, working with others, problem solving, analyzing/assessing, planning/layout, organizing, managing others, decision making, and positive work attitudes were mentioned most frequently as transferable skills. It was also found that possession of transferable skills is more essential for job openings with long term potential as opposed to immediate job openings. While opinions differed concerning vocational education's role, it was suggested that skills that assist employees to be independent should be emphasized by schools. (A discussion and conclusion section concludes the report.) (LRA)

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Information Series No. 126

TRANSFERABLE SKILLS:

THE EMPLOYERS' VIEWPOINT

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May 1977

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U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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FOREWORD

Occupational mobility is a fact of life in America. However, its implications for education are not well understood. In an effort to obtain a better understanding of occupational mobility and to assess the state of knowledge concerning skill transfer in occupational change, a series of nine conferences reported herein were conducted as part of a larger effort, funded by the National Institute of Education. These conferences were designed to be an informal means of involving and obtaining the wisdom of concerned persons—primarily from business and industry and from various parts of the nation—of the nature of occupationally transferable skills.

We are indebted to nearly a hundred persons who gave a day of their time to participate, as well as to their employers for supporting their participation. Special appreciation is due those who provided local coordination for each meeting and without whose assistance the meetings would not have been possible. The active participation, encouragement, and support provided by Robert Stump, NIE project officer, is also gratefully acknowledged.

Center staff members have contributed in several ways. Allen A. Wiant had the primary responsibility for arranging and conducting the conferences, and for preparing this report. R. Winston Horne, William L. Ashley, and Richard L. Miguel each shared in the conference responsibilities and participated in one or more of them. Frank C. Pratzner has directed the transferable skills project, of which the conferences here reported were a part.

Robert E. Taylor
Executive Director
The Center for Vocational Education

TABLE OF CONTENTS

FOREWORD iii

INTRODUCTION 1

SUMMARY 3

DESIGN OF THE CONFERENCES 5

- Conference Arrangements and Participants 5
- Agenda and Format 6
- Topic 1: Personal Occupational Experiences and Skills 6
- Topic 2: Patterns of Occupational Mobility 7
- Topic 3: Assessment of Transferable Skills 7
- Topic 4: Usefulness of the Transferable Skills Concept 7

RESULTS 9

- Identification of Transferable Skills 9
- Generalizability of the Skill List 11
- Importance of Skills in Hiring Decisions 14
- Importance of Skills in Internal Transfer Decisions 15
- Questions of Usefulness 17
- Implications for Education and Industry 18

DISCUSSION AND CONCLUSIONS 21

- Consensus on Transferable Skills 21
- Nature of Transferable Skills 22
- Importance for Initial Employability 22
- Importance for Intra-firm Mobility 23
- The Role of Youth Work Experience 23
- The Role of Schools 23

APPENDIX A: Conference Participant Names and Addresses 25
APPENDIX B: Conference Sites and Related Information 33
APPENDIX C: Conference Participant Affiliations and Functions 35
APPENDIX D: Examples of Dissimilar Jobs and Skills Reported as Useful to Both 37

INTRODUCTION

The Center for Vocational Education, under a contract with the National Institute of Education, has been conducting exploratory activities intended to estimate the current state of knowledge with regard to the nature of occupationally transferable skills and the process of occupational adaptability. Job mobility—both voluntary and involuntary—is a significant phenomenon in the work experience of the average American today. Because many people change jobs, and do so frequently, educational experiences should be designed to improve the ability of individuals to adapt to these changes. Schools should direct their attention to what should be taught in order to improve student adaptability when a change of occupations is either opportune or necessary. The current project is attempting to identify work-relevant generalizable skills and abilities that schools might teach to prepare individuals, not only for a job, but for careers consisting of a series of jobs and for lives that may consist of a series of careers.

Four major objectives served to organize the work. One of these was to identify the range of skills, abilities, or competencies that individuals in one occupation transfer to other occupations, thereby enabling them to adapt more readily. The remaining three project objectives included: identification of existing sources of data on occupational mobility that appear to have potential for future research, especially for study of the skills and characteristics of occupationally mobile people; identification of schemes, in use or proposed, for classifying or clustering jobs, that might be useful in conjunction with occupational mobility studies; and a study of selected programs currently in operation that incorporate the development, enhancement, or recognition of highly transferable skills. Each of these are reported elsewhere, as indicated by the list of project documents printed inside the back cover of this report.

The project staff took two diverse approaches to the first objective. The first approach was to commission reports to assess the state of knowledge concerning the nature of occupationally transferable skills and the skill transfer process, based upon review and synthesis of current thinking and research on these subjects. The second approach to this objective was to conduct a series of nine conferences to determine how representatives of local businesses and industries across the country view the kinds of skills that are occupationally transferable, and to identify the types of skills important in their firms' work settings in qualifying for job transfers and progressions. These conferences and the findings from them are the subject of this report.

The conferences were not designed to be a means of data collection in the research sense. They were intended, rather, to be an initial inquiry into current business and industry practices which reflect an understanding and recognition of skill transfer.

This report first describes the design and rationale of the conferences. Next, it presents the results and findings from the conferences taken as a whole and, finally, discusses selected findings and offers conclusions.

SUMMARY

The following statements highlight the report:

With regard to skill transfer

- Intellectual/aptitudinal, interpersonal, and attitudinal skills and characteristics were identified as being transferable; communicating, working with others, problem solving, analyzing/assessing, planning/layout, organizing, managing others, decision making, and positive work attitude were mentioned most frequently.
- Transferable skills were those regarded as useful or necessary in an almost limitless array of life and work situations.
- The underlying skills, abilities, and attitudes acquired while learning to perform specific work activities (job tasks) may transfer, even though the specific work activities may not be the same.
- More technical knowledge and job-specific skills transfer in moving from job to job *within* a family of related jobs than when moving *between* job families.

Explanations for occupational mobility

- The importance of possessing transferable skills to occupational mobility is unknown. Other factors such as occupational supply and demand, being at the right place at the right time, or knowing the right people may be of equal or greater importance.

Identifying skills is a problem

- Jobs and experience are typically described in terms of the tasks performed rather than the skills needed to perform the tasks.
- The assessment problem is clearly a major barrier to a more significant role for development and recognition of transferable skills.
- The state-of-the-art suggests that skill appraisal techniques are primitive, limited in scope, not very reliable, and not cost-effective.
- The level of discourse is abstract, and there is little going on to change that. What is happening is partially a result of the concern for equity and equality in employment.

Skill development and transfer are life-long processes

- The development of transferable skills is a life-long process and not the sole responsibility of any one sector of formal education.
- Perceptions as to one's most useful (transferable) skills should be expected to change with time and career perspective.
- An individual's perceptions of which skills and abilitieis are personally most useful change with time and career perspectives.
- Interpersonal skills are important in all jobs, although to differing degrees.

✓ *More than skills are needed for success in work*

- Attitudes, interests, and values can be thought of as modifiers of skills, facilitating or inhibiting performance.
- Problems encountered in work situations tend to involve interpersonal relationships. Perhaps more workers lose jobs due to lack of positive attitudes and interpersonal skills than to absence of other types of job skills. Increased attention is being given within industry to the effects on productivity of interpersonal factors.

✓ *Schools can do more*

- Schools could play a role in developing the skills and abilities that seem to be important, but would have to develop a common language with employers to explain to them and their students what they are achieving.
- Credentials typically furnished by schools are often of limited practical value to prospective employers.
- Academic grades are often regarded as evidence of ability and willingness to learn and accept direction, attendance as evidence of reliability and responsibility—characteristics of a "good employee" rather than skills.
- The importance of attitudinal qualities and interpersonal skills could be given greater recognition in the schools' curriculum and credentials.
- Simulated problem situations can create greater realism, improve the relevance and credibility of learning, and enhance the confidence of learners that competencies learned have value for their futures.

DESIGN OF THE CONFERENCES

Conference Arrangements and Participants

Between April and October of 1976, nine conferences were held in various locations across the country. The dates and locations of these nine meetings are listed below.

Columbus, Ohio	April 29, 1976
Milwaukee, Wisconsin	May 11, 1976
Fargo, North Dakota	May 13, 1976
San Diego, California	August 24, 1976
Salt Lake City, Utah	August 26, 1976
Gulf Shores, Alabama (MTA)	October 20, 1976
Atlanta, Georgia	October 21, 1976
Niagara Falls, New York	October 27, 1976
New York City, New York	October 28, 1976

Among those primarily sought as conference participants were persons from a variety of business and industry contexts who had experience in personnel administration and a good understanding of their firm's personnel policies and policy rationale. What was desired of this group was their knowledge of the patterns of personnel movement that occur in the employment world and the reasons underlying them. Other experienced observers with somewhat different perspectives were also invited. As a result, the conferences involved a mix of persons from personnel management, industrial training, public education and training, and labor unions. (Appendix A identifies conference participants.)

The typical conference was planned with the cooperation and assistance of a local administrator of vocational or career education. (Appendix B lists local coordinators.) Their help was essential in identifying a number of candidate participants from local firms and institutions who were thought to have an interest in such a conference and to be capable of making a contribution. Contacts with local chapter members of the American Society for Training and Development also proved very helpful. A representative selection of those identified received letters of invitation to participate in the conference. Follow-up of non-respondents, normally by the local administrator, was conducted in an effort to obtain the gratis participation of 10-15 persons.

Among the last of the nine meetings were two that did not fit the general pattern of participant identification and selection described above. One of these was held in conjunction with the annual conference of the Military Testing Association (MTA). Those attending this convention included military and civilian specialists in training and evaluation procedures employed by the armed services and Coast Guard. Another conference was atypical in that the conferees were an already constituted group—members of the headquarters staff of the American Management Associations (AMA).[1]

[1] The names and affiliations of all who participated in the conferences, exclusive of the MTA session, are listed in Appendix A. Because of the format of the MTA meeting, active participation was limited and few participant names were obtained. Appendix C provides a breakdown of the types of employers and affiliations represented.

Agenda and Format

The schedule for each conference was similar. Approximately the same topics were addressed in a full day session. Each conference was conducted as a series of discussions, sometimes involving the group as a whole, and at other times smaller groups. The major exception was the MTA meeting which was held as a split session of the larger conference. Because response of MTA conference attendees to the transferable skills session announcement was so much greater than anticipated, small group discussion became impractical and was replaced by presentation followed by questions and comments

Although their general structure and objectives remained the same, both the agenda and questions employed to stimulate discussion were modified somewhat during the course of the several conferences. Because of the interrelated nature of the topics and the informal format desired, time allotted to each topic was variable. In general, the agenda at all but the MTA conference was as follows:

- Topic 1: Personal Occupational Experiences and Skills
- Topic 2: Patterns of Occupational Mobility
- Topic 3: Assessment of Transferable Skills
- Topic 4: Usefulness of the Transferable Skills Concept

Topic 1: Personal Occupational Experiences and Skills

Drawing upon the conferees' own work experience to create an intuitive understanding of the concept of "transferable skills," this topic avoided imposition of preconceived definitions counterproductive to the exploratory purposes of the conference. Accordingly, the basis of discussion was a list of items identified by the conference participants from their own career experiences in response to a number of questions. The general form and sequence of these questions was the following:

1. Since starting full-time work, how many *different* jobs have you held?
2. Considering all of the jobs you have held, which were the *least* similar?
3. Were any of your skills and abilities useful in both? If so, what were they?
4. Of all the jobs you have held, which were the *most* similar? What skills and abilities were useful to both?
5. What skills, abilities, or competencies do you think have been most useful to you over the years in the greatest variety of life and work situations?

It was hoped that the concept implied by the term "transferable skills" would be conveyed through the form and sequence of the questions, that premature definitions might be avoided, and that the conferees would understand that the meetings were not being conducted to seek confirmation or support for some preconceived position. At each conference, the list of items produced in response to these questions became the primary point of reference for the remaining discussions, particularly as the list was reviewed for its applicability to workers in diverse occupations.

Topic 2: Patterns of Occupational Mobility

Patterns of intrafirm occupational movement was the second planned topic of discussion. It was not presumed that those attending would be experts in occupational mobility, or even that they would know a great deal about the employment experiences of ex-employees. However, the business and industry participants were assumed to have an understanding of their firms' personnel policies regarding the kinds of internal transfers normally encouraged or accommodated and normal career paths or occupational progressions within their organizations. The purpose of this line of inquiry was to determine whether, in a practical sense, such policies and movements offer clues to a better understanding of the nature and role of transferable skills in job or occupational change.

Topic 3: Assessment of Transferable Skills

The third planned topic concerned assessment practices. The objective here was to determine the extent to which the types of skills under discussion were being assessed in the various organizations represented and the extent to which such assessment was seen to be desirable, useful, and practical. Assessment techniques favored or used in connection with initial employment, transfer, promotion, or selection for training were described in these discussions.

Topic 4: Usefulness of the Transferable Skills Concept

Consideration of the usefulness of the transferable skills concept was planned to be the concluding topic of each conference. In fact, however, this concern surfaced and was examined at various times during the discussion of other planned topics. This was both logical and desirable in view of the interrelated nature of the agenda items.

RESULTS

In this section, we have attempted to synthesize and organize the discussions of all the conferences into five categories that roughly parallel the conference topics: (1) Identification of Transferable Skills, (2) Generalizability of the Skill List, (3) Importance of Transferable Skills in Hiring and Transfer Decisions, (4) Usefulness of Transferable Skills, and (5) Implications for Education and Industry.

Identification of Transferable Skills

Participants' discussion of their personal occupational experiences and skills led to the initial consideration of transferable skills. "Transferable skills" was used as a term of convenience to indicate the focus of interest at the conferences. The term was not predefined, but was used to denote, in a general sense, whatever enabling or useful learning individuals carry with them in changing from one occupation to another. It was expected that the conferees would move toward better definition. Hence, a prescriptive definition was avoided. Unfortunately, this ambiguity was a source of occasional frustration to conference participants.

The skills, abilities, and competencies considered by conferees to have been of greatest personal usefulness provided an initial measure of definition and were the basis for the opening discussions of each conference. A listing of these "transferable skills" compiled from all the conferences, is given in Table 1. Casual examination of the entries reveals a great variety. It is also evident that a number of the items would not be termed "skills" in any conventional sense of the word. No systematic attempt was made in the conferences to classify or separate items into categories, although many participants saw this as a possibility. Subsequently, the items have been organized, on the basis of similarities to be discussed, into three categories: intellectual/aptitudinal, interpersonal, and attitudinal. (See Table 1.)

Items within each category are shown in the approximate rank order of their frequency of occurrence. This ranking must be regarded only as indicative of perceived importance. There are three reasons for this conservative interpretation. First, the conferences were not designed to be a formal data gathering effort. Submittal of the individual participants' worksheets from which these lists were compiled was completely voluntary, although over half submitted worksheets.

Second, since neither a checklist was provided nor a format prescribed, the determination of frequency of occurrence has required judgment to reduce a very large list of individual terms—variously expressed—to a smaller, more manageable list. This aggregation was completed by the author who decided whether certain pairs of items were different expressions of the same skill or whether they were actually different in meaning. In some cases it is possible that items assumed to be equivalent expressions may have been incorrectly consolidated into a single descriptor; in other cases, equivalent items may have been retained as separate and distinct. In either situation, the resulting frequency of occurrence would be in error.

Table 1

Composite List of Transferable Skills Identified by Conference Participants[2]

Intellectual/Aptitudinal

Communicating (44)
Problem Solving (17)
Analyzing/Assessing (15)
Planning/Layout (15)
Organizing (14)
Decision Making (13)
Creativity/Imagination/Innovation
Problem Identification/Definition
Managing One's Own Time
Basic Computation
Logical Thinking
Evaluating
Ability to Relate Common Knowledge or Transfer Experiences
Coping with the Labor Market and Job Movement
Understanding Others
Synthesizing
Marshalling Available Resources
Accommodating Multiple Demands
Judgment
Foresight
Trouble Shooting
Job Awareness
Mechanical Aptitude
Typing
Accounting
Implementing
Self-Understanding, Awareness, Actualization
Situational Analysis
Assessing Environments/Situations
Understanding Human System Interactions
Organizational Savvy
Conceptualization
Generalization
Goal Setting
Controlling
Quantitative Thinking
Dealing with Work Situations
Finance
Tool Usage
Bookkeeping
Artistic Ability
Business Sense
Tolerance of Ambiguity

Interpersonal

Working With, Getting Along With, or Relating to Others (28)
Managing, Directing, or Supervising (13)
Empathizing, or Being Sensitive to Others
Teaching, Training, or Instructing
Counseling
Motivating
Gaining Acceptance, or Building Rapport
Helping, or Cooperating
Cultivating Cooperation
Selling
Accepting Supervision
Delegating
Instilling Confidence
Team Building

Attitudinal

Diligence, or a Positive Attitude Toward the Value of Work (11)
Receptivity/Flexibility/Adaptability
Determination/Perserverance
Acceptance/Appreciation/Concern for Others
Responsibility
Willingness to Learn
Ambition/Motivation
Self-Confidence
Self-Discipline
Pride
Enthusiasm
Patience
Self-Actualization
Assertiveness
Honesty
Loyalty
Reliability
Risk Taking
Compromising
Kindness

[2] Items are listed in approximate order of frequency within each category. Most frequently mentioned items are followed by a figure in parenthesis to indicate relative frequency; thus "Communicating" was mentioned about 44 times as often as "Tolerance of Ambiguity."

Third, the identified items do not appear to be equally independent or aggregated at the same level. Is problem solving, for example, distinct from decision making? Is it subsumed by the latter, or a much larger capability that includes the latter? Therefore, it needs to be emphasized that the rankings indicated by Table 1 are crude, at best. Even so, a number of the items were mentioned with notable frequency. Specifically, arranged in rank order, these were:

1. Communicating
2. Working with others
3. Problem solving
4. Analyzing/assessing
5. Planning/layout
6. Organizing
7. Managing others
8. Decision making
9. Positive work attitude

Many of the Table 1 items are actually very large categories. "Communicating" includes, for example, all types of human communication (e.g., reading, writing, speaking, listening, body language, etc.); "Working with others" is a consolidation that contains notions of getting along with others and relating to others. On the other hand, bookkeeping and typing are more specific, bounded categories.

The categories and groupings shown in Table 1 are provided to facilitate comparison and contrast. The "Intellectual/aptitudinal" dimension contains items that are probably most commonly referred to as skills. These are items for which most persons have some innate aptitude, and for which training is at least implicitly provided in many courses of study. The "Interpersonal" grouping also contains items recognized as skills amenable to training, though perhaps to a lesser degree than those of the first set. Another characteristic common to these two groups of items is that they tend to be readily expressible in gerundal form, that is, in terms of actions. By contrast, the "Attitudinal" category contains personal characteristics that appear to be least like skills and perhaps the least capable of being influenced by training.

Considerable discussion in the meetings addressed the heterogeneous nature of the items (skills, abilities, attitudes, etc.) identified. Participants generally agreed, though, that all of these transfer, contribute to success, and should be regarded as important. This agreement was apparent even on items so intangible that even imprecise assessment of individual capacity is difficult. It was noted, for example, that an individual's positive attitude toward work is something that can be determined only through living and working relationships, and not through initial screening of potential employees, a process which can only be concerned with skills. It was also suggested that attitudes, interests, and values can be thought of as modifiers of skills, facilitating or inhibiting performance. In this sense, these modifiers may be viewed as external to (i.e., other than) skills, and affected by the circumstances associated with job change.

Generalizability of the Skill List

In addition to the identification of transferable skills, efforts were devoted to determine the extent of their transferability—their generalizability across all occupations. Assessment of the generalizability of identified skills took place in two ways.

Transferable skills were first identified from answers to the series of five questions discussed under Topic 1. Of particular interest was the fact that almost all the conferees were able to identify skills and abilities common to the jobs they considered most dissimilar in their personal work experience. (Appendix D provides examples of dissimilar jobs and the skills reported as useful to both.)

Despite this diversity of job experiences, the respondents could not be considered representative of the working population as a whole, and their responses could not be regarded as generalizable. As a consequence of the participant identification and selection process, those attending the conferences were generally in "people-intensive" occupations (administrators, personnel and training managers, teachers, and counselors). It was presumed that current occupational roles would strongly influence the identification of "most useful skills" and that these would not necessarily be typical of other populations, particularly those currently in less people-intensive occupations.

To lessen the effects of the conferee selection process and current occupational roles, and to get some sense of the generalizability of the identified skills, a second approach was taken. In it conferees were asked to speculate as to the nature of the items that might be identified by persons currently in "data-intensive" or "things-intensive" occupations,[3] particularly those normally considered to be subprofessional.

Responses to both approaches indicated a belief that content-specific skills transfer more easily in moves from job to job *within* a family of related jobs that in moves *between* job families. Thus, it was concluded that the degree of occupational change experienced by members of any group would influence the nature of the skills they would identify as having transferred.

Consistent with this conclusion were participant responses to Question 4 (Of all the jobs you have held, which were the *most* similar? What skills and abilities were useful in both?). Except for cases involving two nearly identical jobs, the skills identified as having transferred were stated in general terms.

Participants generally agreed that problems encountered in work situations—including data-intensive and things-intensive jobs—almost always involve interpersonal relationships. This suggested the importance of interpersonal skills, although persons in data- or things-intensive jobs would likely assign these skills low priority. It was noted that increased attention is being paid within industry to the effects of interpersonal factors on productivity. It was also noted that perhaps more workers lose jobs due to the lack of positive attitudes and interpersonal skills than to the absence of other, more task related skills. With regard to positive attitudes, one suggestion was that employers should work to reduce conflict between "role goals" and "goal roles." Role goals are those that employees feel are *set for them* in that these goals serve the best interests of the company. Goal roles are those which employees *desire for themselves* because of the perceived relation between these roles and personal goals.

With reference to non-interpersonal (e.g., Intellectual/aptitudinal) skills, expectations were that skill lists produced by persons in less people-intensive types of jobs would contain similar skill items, but that those items might be expressed less abstractly. For example, "Analyzing" might be expressed as "Trouble shooting" to suggest more specific, as well as different applications. This notion was suggested by the self-assessments of several participants who were vocational teachers

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[3] Borrowing from a data-people-things approach to occupations employed in the U.S. Department of Labor, Bureau of Employment Security. *Dictionary of Occupational Titles*, Vol. I and II (3rd ed.). Washington, D.C.: U.S. Government Printing Office, 1965.

with extensive experience in skilled trade areas. For them, a number of technical and psychomotor skills tended to be important (e.g., typing, measuring, bookkeeping). However, the expectations that less abstract language would be used was also based on the belief that the tasks of the jobs being discussed would be quite similar.

A related question was raised concerning the skills and abilities that tended not to transfer in the experience of the conference participants. The intent of the question was to refine and/or confirm the level of specificity of the skill items previously identified. Responses indicated that skills generally classifiable as specific activities (observable behaviors), specific job knowledge, specific job techniques and tool skills, or job context information had not transferred as readily. The opinion was expressed that skills, abilities, and attitudes acquired or developed while learning to perform specific work activities do transfer, but that the specific activities themselves do not. This was felt to be true both for school to work transitions and for job changing. Discussions resulting from this attempt to distinguish between the nature of those skills that tend to transfer and those that do not also emphasized the job relatedness issue. It was stated, for example, that "when jobs are most closely related, you find more transfer of knowledge."

With regard to whether all segments of the working population need the types of skills identified by conference participants, it was interesting that the early careers of many participants were marked by a variety of subprofessional jobs which they considered when listing their most useful skills and abilities. The results of this consideration suggested that the most essential skills for earlier jobs may not be the same as those needed later on, and that some skills found to be more useful later in life were either underutilized or underdeveloped in earlier work experience. Accordingly, a caution was offered against concluding that every job needs the identified "higher order" skills to the same degree, since such a conclusion could lead to unrealistic objectives for entry level training and to frustration and discouragement for those completing such training and entering employment. It was observed that many entry level jobs may actually discourage the exercise of "higher order" skills.

In summary, discussions regarding the generalizability of the participants' list of most useful transferable skills to the working population as a whole led to consensus on the following points:

- Skill priorities would differ for other groups, but most of the skills identified by others would be similar to those identified in the conferences.
- The specificity of transferable skills would depend upon the similarity between the jobs considered—the more similar the jobs, the less abstract the skills. However, the jobs involved in a series of changes would need to be very similar before the skills transferring between them would be appreciably more specific.
- The list is not exhaustive and a number of more specific skills might be added.
- Job similarity is associated with job-technical or contextual knowledge transfer.
- Interpersonal skills are important in all jobs, though to differing degrees.
- An individual's perspectives of which skills and abilities are personally most useful change with time and career perspective.

Importance of Skills in Hiring Decisions

One purpose of the conferences was to better understand employers' hiring, promotion, and transfer decisions, and the role that individual skills and abilities play in those decisions.

There was little disagreement as to the value of being able to make accurate appraisals of job applicants' skills, whether general or job-specific. But it was also generally agreed that the state-of-the-art in skill appraisal is primitive, with the best available techniques limited in scope and not very reliable or cost-effective. Accordingly, a variety of indirect measures are employed in making hiring decisions. The employment interview, school and work credentials, and references were variously defended as appropriate for determining a job applicant's employability.

Mangum[4] has observed that one-third of the U.S. labor force is employed in occupations requiring *no* specific vocational preparation, another third require a minimal amount of pre-job preparation (e.g., a few weeks), and the final third are in occupations requiring appreciable pre-job training. Thus, it is hardly surprising that, with respect to hiring decisions, opinions differed rather widely as to the criteria looked at and which are most important. These differences of opinion may also reflect the different goals of employers as they make hiring decisions. Employers are frequently concerned with much more than simply filling job openings when hiring decisions are made. Immediate concerns are for productivity in job specific terms; however, their broader concerns are for long-range productivity—does the person have long-term potential as an employee.

Opinion divided regarding the value and significance of the employment interview. Some felt that experienced interviewers can determine a job applicant's essential attitudinal qualifications. This view seemed to be associated with interviewing for entry level jobs having minimal specific skill requirements, and/or short periods of on-the-job training. Others held that employment decisions should rest almost entirely on an applicant's employment resume and/or other credentials, rather than upon an interviewer's ability to make character judgments. This position appeared to be associated with a greater awareness of the challenges of recent years to conventional hiring practices, and the need to be more responsive to these challenges. Accordingly, reduced dependence upon the employment interview as a primary source of information was seen as a move in the direction of greater objectivity.

Similarly, opinions varied as to the value of personal references. While the criticism was made that personal references are selected by a job applicant precisely because of their willingness to support and recommend the applicant to a potential employer, others felt such references could, nevertheless, be sources of valuable information, if given adequate assurances of confidentiality.

There was little disagreement that credentials typically furnished by schools are of limited practical value to prospective employers. However, in communities characterized by good communication and rapport between local schools and employers, a major factor enabling employers to interpret credentials is their intimate knowledge of school programs and the quality of training being provided. Generally, school records were accepted as surrogate indicators/measures of desired characteristics. Thus, academic grades seem to be regarded as evidence of ability and/or willingness to learn and to accept direction; attendance, as evidence of reliability and responsibility. (These were sometimes referred to in the meetings as being "characteristics of a good employee" rather than skills.)

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[4] Mangum, G.L. *Employability, employment, and income: A reassessment of manpower policy.* Salt Lake City, UT: Olympus Publishing Company, 1976, p. 136.

The prior experience of job applicants appeared to be the most important factor in hiring decisions, particularly for many skilled and semi-skilled jobs where short-term productivity is expected. Experience is usually described in the same terms as jobs, that is, in terms of the tasks performed rather than in terms of the skills needed to perform those job tasks. Hence, if prior work experience offers evidence of satisfactory performance of tasks which are similar to those required by the job opening of a potential employer, the question of skill requirements is of little concern. It is only when the tasks previously performed and those required by some new job are different that the skills of both need to be assessed in order to determine whether there is the likelihood of a good "fit," or potential skill transfer.

The importance of previous work experience as it relates to performance is, of course, apparent both for the experienced worker seeking employment with a new employer, and for one desiring a job change without a change of employer. However, for an employer the problems of evaluation in the two cases are not the same.

Summarizing the points made in the discussions of the role of transferable skills in hiring decisions:

- Employers often hire both for immediate job openings and for long-term potential; possession of transferable skills is more essential for the latter.
- The usual screening techniques (employment interview, school and work credentials, personal references) provide inadequate information on essential skills.
- The usual criteria (grades, attendance, etc.) are often interpreted as surrogate indicators of transferable skills (ability to achieve, reliability, etc.).

Importance of Skills in Internal Transfer Decisions

Company policies concerning employee transfer vary greatly, as do the beliefs that underlie them. Perhaps the most conservative view expressed in the conferences was that transfers are costly to an employer as a result of a chain reaction effect in which each transfer involves a period of reduced productivity on the part of the individual transferred, and creates a vacancy that must be filled, which in turn creates another vacancy. It seemed likely that this was a rather commonly held view, though not often defended. Company policies that discourage transfer are a logical outcome of such a position.

The most liberal policies were generally those represented by the utility companies, though there were considerable differences within this group as well. To varying degrees, these companies' training programs facilitate movements of personnel into jobs unlike those previously held. Selection requirements for such training tend to be validated and therefore minimal. Few other specific cases of company transfer policies mentioned in the meetings were characterized by as great expenditure of effort in occupational analysis, validation of aptitude requirements, and the development of achievement tests.

It appeared that externally imposed regulations and guidelines had been instrumental in bringing about the most liberal of the transfer policies. However, one large company (a non-utility) was reported as having such a policy in the belief that it was economically beneficial. It was believed to be effective in developing flexibility in the company's workforce, and in promoting employee goodwill and loyalty. Dedication to the practice of promotion from within was cited as one of the salient features of the policy.

As a whole, policies governing internal job transfer in the conferees' organizations seemed to regard as reasonable any transfer that involves movement from one job to another within a cluster of related jobs. The primary determinants of relatedness were the tools employed (e.g., typewriter, lathe, accounting machine) and the organizational function served (e.g., management, sales, production, maintenance). Because many establishments are organized along functional lines, the apparent tendency is for transfers to be accommodated within a functional area, and that within such an area transfers occur most frequently between jobs employing the same equipment and material.

The prevailing belief and practice seems to be that transfers beneficial to the employer are those that involve carry-over of job-specific knowledge and psychomotor skills, thus presumably minimizing the retraining or adjustment time required. Although this view appears to be widely accepted as rational, it was interesting to note that instances where employers have deviated from it as a result of unusual circumstances or pressures have not had overall negative consequences. In fact, the evidence suggests that such changes were viewed positively and that the previous policies would not be reinstated.

One such instance involved a substantial reduction in a firm's workforce in which established layoff procedures resulted in some departments and job types being severely cut back while others were relatively unaffected. The existing transfer policy would not accommodate the adjustments needed to restore operational balance. Faced with this problem, previously accepted bases for comparing jobs within the organization were re-examined and modified to the apparent advantage of both the employer and work force. Not only were the immediate adjustment needs facilitated, but the transfer policy and criteria employed in reviewing transfer requests were modified and expanded as a result of this successful experience.

The utility companies represented offered other examples. Pressure to equalize the job status of female and minority employees has brought about a rigorous review and revision of previous upgrade and transfer criteria and the adoption of measures to correct existing imbalances. Although such remedial measures have been and continue to be costly to these employers because of increased retraining requirements, it appeared evident that previous criteria for accommodating employee transfers were rationally indefensible and would not be reverted to even after current equity requirements are satisfied.

Throughout the discussions of hiring, transfer, and promotion practices, the role of transferable skills was continually questioned and examined. It was seen as somewhat different for hiring than for transfer decisions, but this difference seemed to be explained by the relative difficulty of assessment in the two situations.

As previously noted, assessment of a job applicant's skills and characteristics was regarded as a difficult and subjective task, particularly so in the case of persons seeking initial employment. Such desirable skills, abilities, and attitudes as those listed in Table 1 are abstract and must be inferred from behaviors observed in the performance of explicit tasks. Employment itself, therefore, provides an unparalleled opportunity for an employer to observe and evaluate these, enhancing capability to make sound transfer and promotion decisions.

This helps to explain why the policy of promotion from within was so consistently found among the employers represented in the meetings. Observation of an employee's performance over an appreciable period was felt to be particularly important when considering promotion from non-supervisory to supervisory positions. In such instances, where previous task performance may provide only indirect evidence of ability to perform new tasks, inferences as to underlying transferable skills and personal characteristics become critical. The response of employees to publicized promotion opportunities involving some personal sacrifice of time, effort, and/or money, was often taken as a surrogate measure of these desired characteristics.

To aid in selection and training decisions for management level positions, a few large employers have established assessment centers. Selected employees are sent to these centers for evaluation of management potential. However, state-of-the-art assessment procedures are very time consuming and costly, and do not yield results that are as dependable as desired.

Summarizing the points made in the discussions of the role of transferable skills in transfer and promotion decisions:

- Employee transfer policies and employer beliefs concerning the role of skills in employee transfer decisions vary widely.
- In some instances, circumstances have brought about more liberal transfer policies which are now regarded as beneficial.
- The state-of-the-art in skill assessment methodology is primitive, time consuming, and not cost-effective.
- The context of employment itself offers the best opportunity for an employer to evaluate an employee's skills and potentials.

Questions of Usefulness

The assessment problem was clearly seen as the major barrier to more direct efforts to develop transferable skills in individuals, and to skills' becoming more significant in hiring and promotion decisions. It was also difficult for the conferees to see how adequate assessment procedures, if developed, could be used within the context of existing structures. Structural barriers mentioned included those existing in the labor market (e.g., the seniority provisions of labor contracts), equal opportunity laws and guidelines, and laws governing youth employment.

Seniority provisions that govern the intra-firm movement of unionized employees are common features of labor contracts. Such provisions govern job progressions and are typically prescriptive to such an extent that, once in place, there are few exceptions made. Until and unless it can be clearly shown that specific transferable skills are necessary for these progressions, and that the currently accepted criteria are invalid, it seems highly doubtful that transferable skills per se will become an important consideration in these contexts.

Similarly, current emphasis on non-discrimination in employment makes such considerations of low priority. Equal employment opportunity legislation and subsequent regulations are subjecting many long accepted personnel practices to critical review. Previously unquestioned definitions of job requirements and values embodied in screening tests and procedures are being successfully challenged. As a result, employers have become wary of prescribing conditions of employment, transfer, or promotion unless their relation to job performance requirements can be fully substantiated. Although possession of the exemplary skills and attributes listed earlier (Table 1) may, in fact, be highly relevant to successful performance, current difficulty in their validation as essential to job performance renders the whole issue moot.

The apparently widespread policy and rationale for promoting from within has the effect of limiting the number of entry points into an employing organization (sometimes termed "ports of entry") and restricting new hourly employees to "entry level" jobs. This current practice reduces the necessity to formalize skill identification procedures and minimizes the risks presently involved in attempts at personnel assessment and requirements validation.

Impediments to the development of transferable skills and attitudes were seen to be the result of changing patterns of youth development. It was felt that the youthful employment contexts of the past were largely responsible for the development of transferable skills at an early age. A variety of work experiences were then typically available during school years—on the farm, in family businesses, or in other paid work. For most young people today, many of these work roles and opportunities, as well as their abuses, have been removed through a variety of laws and regulations. The conferees felt that, as a result, many of today's youth are not exposed to skill developing work environments and are not required to transfer their school-acquired skills until they have adult responsibilities. By such time, these young adults frequently cannot personally afford the luxury of developing such skills through experiencing a variety of jobs. Paradoxically, those who are able to do so are not looked upon with favor by prospective employers, who tend to view their history of frequent job changes with suspicion. In summary, it was an often heard opinion of the conferees that development of many essential skills is delayed for most of today's workers until after they have entered the labor market as adult, full-time workers.

Another practical problem was raised by the suggestion that all job changes are accompanied by some sense of loss involving the exchange of the familiar for the unfamiliar. Enabling a person to function in a new situation in the shortest possible time is presumed to require external supports to compensate for this sense of loss. Thus, those who are out of work or are threatened with layoff frequently are unable to function because they lack these compensatory supports. The mere possession of skills is clearly not enough under such circumstances. Perhaps a greater awareness by individuals of the skills they possess and where the skills might be applicable would help.

It was doubted that barriers to individual skill transfer contribute appreciably to unemployment and non-employability. Whether or not the possession of such skills contributes significantly to successful occupational mobility and career change was also questioned. More important factors in successful change were believed to include occupational supply and demand, "being at the right place at the right time," knowing the right people, being willing to relocate physically, and having personality traits and needs better satisfied by other types of working environments. In short, many of the conferees felt at least somewhat uneasy with the notion that transferable skills accounted for more than "the tip of the iceberg."

Implications for Education and Industry

Despite the constraints noted in the previous section, a number of observations made in the conferences concerning education and industry practices have potentially significant implications for change. Discussions of the usefulness of the skill transfer concept involved considerations ranging from techniques for skill development to assessment and recognition.

With regard to skill development, the need for balance between individual and group learning experiences was cited. It was observed that individual experiences have a competitive dimension and promote the ability to think in depth, whereas group experiences encourage thinking more broadly and cooperatively. Simulated problem situations were mentioned as a method for creating greater realism, and as a means by which education can both improve credibility for its learning experiences and enhance the confidence of learners that competencies learned have values for their future. However, the need for differential skill development over time rather than focusing exclusively on development in the early years was recognized. Mention was made of research by the insurance industry that demonstrated the changing relative importance of interests, knowledge and skill for career success. Knowledge and skill were found to be crucial in early employment whereas interests were more important later on. Other studies indicating that different factors operate to produce success at different times in life were also mentioned. Thus, development of

the kinds of human capacities referred to in the conferences as transferable skills was seen to be a life-long process, rather than being entirely the responsibility of any one sector of public education, or even of formal education as a whole.

With regard to vocational education's role, anticipated differences of opinion were represented. Some employer representatives felt that schools are inadequately preparing students in some of the more basic skill areas. It was suggested that skills that assist employees to be independent, such as business knowledge, management, life planning, investment strategies, and self-awareness should be emphasized by schools, leaving industrial trainers to concentrate on job-specific technical skills. It was pointed out that labor market fluctuations suggest that formal education through high school and beyond should be diversified rather than highly specialized. Accordingly, public school programs should not attempt to produce craftsmen, but should be relevant to the broader aspects of the work world. The Industrial Arts Curriculum Project was mentioned as a good example of academic preparation for post-school craft training.[5] However, vocational educators argued that employees are primarily interested in immediately usable, job-specific skills rather than in long-term potential, and do *not*, in fact, prefer to hire graduates with only general occupational preparation.

Aside from consideration of these less tractable policy issues, a number of less complex implications emerged. It was generally thought, for example, that the importance of attitudinal qualities (or characteristics of good workers) and interpersonal skills should be given greater recognition in school curricula, in school credentials, and in job descriptions. The need for a means to relate the human abilities, attitudes, and competencies discussed at the conferences, to the job market and conventional descriptions of organizational activity was acknowledged. What seems to be needed is a "common language" for describing both people and jobs, a language based on skills rather than on other commonly used descriptors, such as job titles. Examples were offered of instances where job changes were successfully made between seemingly dissimilar jobs (based on job titles) because the essential skills were the same in both. A growing awareness in industry of the possibilities of such new approaches was described, stimulated by equal employment opportunity concerns. Despite the initial concern for skill definition and the complex problems of measurement, evaluation, and communication, there was apparent consensus that reduction of these problems would offer great potential benefits to both individuals and industrial organizations—facilitating both the development and utilization of available human resources.

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[5] See for example: Buffer, J.J. *A junior high school industrial technology curriculum project: A final evaluation of the Industrial Arts Curriculum Project (IACP) 1965-1971.* Columbus: The Ohio State University Research Foundation, 1971. (ERIC Document Reproduction Service No. ED 054 389)

Towers, E.R., Lux, D.G., & Ray, W.E. *A rationale and structure for industrial arts subject matter.* Columbus: The Ohio State University, 1966. (ERIC Document Reproduction Service No. ED 013 955)

DISCUSSION AND CONCLUSIONS

The previous section dealt with the principal results and outcomes of the conferences and included limited evaluative comment. A number of points and issues selected for discussion in this concluding section indicate the contribution of the conferences to our understanding of transferable skills and suggest future inquiries into the nature, importance, and development of transferable skills.

A few concluding general observations concerning the conferences should first be made. Foremost among these is the interest that was evidenced and the apparent general agreement that the subject of transferable skills is worthy of study. Conferees were responsive and shared their views and observations with regard to the requirements for job success. Many left the meetings with expressions of appreciation for a heightened awareness of their own possible involvement in efforts to promote wider recognition and utilization of transferable skills.

Consensus on Transferable Skills

The most remarkable characteristic of the discussions was the degree of consensus obtained with regard to the skills identified. Several explanations for this seem possible. One is that the questions used to stimulate discussion were asked in such a manner as to elicit certain types of responses. Another explanation is that widely shared convictions prevail as to what constitutes the most desirable and valuable work related personal characteristics and abilities, and that the skill lists were largely a reflection of this conventional wisdom. The latter seems the more likely. Such a conclusion is not intended to cast doubt on the validity of these shared convictions. It does, however, suggest that this conventional wisdom is a powerful determinant of employer personnel practices. It also suggests that further conferences of this kind could be expected to replicate the results already obtained.

Another type of question might be raised about the skill consensus obtained, i.e., does it indicate anything about the relative ease of transferring the identified skills as compared with other, "less transferable" skills? It might be assumed that the skills identified—those most useful in a variety of jobs and situations—are more readily transferable than others. However, this does not necessarily follow. The opposite may, in fact, be true. In any case, usefulness and ease of transfer are not the same.

Finally, it should be observed that those who identified the "most useful skills" were persons who were above average in terms of career success. Most were well educated professionals. Hence, there may be a correlation between career success and the ability to transfer certain essential skills. If so, it might be speculated that these skills are indeed difficult to transfer, and that career success is partially a function of one's capability to transfer them.

Thus, there are at least two questions raised by the consensus obtained: one has to do with the ease of skill transfer, and the other involves the relationship between career success and the ability to transfer certain skills. Unfortunately, neither question can be resolved on the basis of the information obtained. The only conclusion that seems warranted is that the identified skills are regarded as useful or necessary in an almost limitless array of life and work situations.

Nature of Transferable Skills

An obvious characteristic of the skills listed in Table 1 is their abstractness. They tend to be context and content free, and contain little if any suggestion of specific application. Broad categories were reported because the more specific the description or definition of a skill, the more limited its usefulness and applicability; and the greater the difference between any two occupations, the more abstract the skills that transfer from one to the other.

Thus, it appears that the more transferable (i.e., more widely useful) skills may be thought of as abstract elements of human ability (e.g., decision making, planning, making use of available resources) inferable from observation of a variety of performance situations. In specific work and life contexts, these process skills are applied in the performance of concrete activities that also require specific knowledge.

Importance for Initial Employability

Business and industry representatives tended to disagree with vocational educators on the importance of transferable skills for initial employability. The former indicated that such skills are most important whereas the latter claimed that their students were unable to obtain employment without job-specific training and skills.

Vocational education typically trains for a broad spectrum of job types. These job types vary considerably as to the degree and specificity of pre-job training actually required for entry. Unfortunately, vocational education programs sometimes do not distinguish very well between bona fide requirements for specialized job training and training that is merely considered to be desirable or beneficial. Consequently, persons without specific vocational preparation often can compete successfully against vocational graduates for those jobs that have negligible specialized skill requirements for entry. Many job openings are of this kind. In such cases, the more abstract skills and attitudes may indeed be more important to an employer than the non-essential specialized skills taught in the vocational school.

Employers value transferable skills in their employees for their long-run potential, that is, they contribute to the versatility and promotability of the employer's work force. However, many such skills are not recognized or utilized in entry level jobs which demand a high degree of conformity to procedures, and allow little if any creativity of thought or action. Such jobs not only fail to reward possession of the skills, but inhibit their development. Neither do employers assign such skills high priority when evaluating prospective employees for job openings for which specialized skills are immediately required.

Thus, the apparent contradiction between employers and vocational educators on this point was probably the result of over-generalization on both sides. Employers generalized in terms of the most frequent types of job openings—entry level jobs having negligible specialized skill prerequisites. Vocational educators tended to lump together all kinds of pre-job training, and to defend their overall program in terms of those jobs that do have legitimate, specialized, job-entry skill requirements.

Importance for Intra-firm Mobility

Transferable skills and work attitudes appear to be necessary for maintaining employment and for advancing or successfully moving within a firm. In particular, interpersonal skills and positive work attitudes are widely regarded as characteristics of a good employee and are valued for their positive contribution to productivity. Therefore, a candidate who possesses these characteristics will be favored for promotion or transfer, other things being equal.

Determining whether or not an employee possesses such transferable attributes is another matter. The context of employment itself seems to provide the best basis for making this kind of judgment. Even the most routine jobs can offer indication of the kinds of skills, interests, and attitudes of importance to an employer in considering an employee for greater or different responsibilities. Employers, given an adequate period of time for observation, seem to be able to form judgments which are at least as satisfactory as those presently obtained by means of more formalized and systematized methods of assessment.

The Role of Youth Work Experience

Unfortunately, certain attitudes and conflicting values observed in the conferences may adversely affect efforts to develop and utilize the transferable skills of young people. A frequently encountered notion was that today's youth are not as well equipped with transferable skills as formerly because they have not had to work in a variety of jobs—on the family farm, in the family business, delivering newspapers, and in other such traditional jobs assumed to have been instrumental in developing the desired skills. At the same time some employer representatives clearly indicated that employment records marked by part-time paid employment and job change are regarded as evidence of unreliability and immature work attitude. If transferable skills and qualities of maturity are developed through a variety of work situations, then the jobs available to youth in today's service oriented market which are often part-time and marked by high turnover rates should be effective in producing the desired skills and attitudes. The opinion expressed in the conferences was that transferable skills are not being acquired, and that few youth have meaningful labor market experience prior to leaving school. Substantial evidence contradicts this view. The great majority of youth are obtaining labor market experience prior to graduation, and the part-time work experience of many of them is significant for their subsequent careers.[6]

The Role of Schools

If abstract transferable skills are "process" skills that become highly developed as a result of application in a variety of contexts and diverse life and work experiences, there are a number of implications for education. First, greater attention should be given to the development of these skills by including them among the explicit goals and priorities of education. Educational experiences might then be specifically designed to provide a variety and diversity of learning contexts.

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[6] A national survey of the high school graduating class of 1972 showed that over three-fourths had part-time employment during their senior year alone, and that more than a third of these worked 20 hours or more per week. The survey further showed that one-third of those working were in jobs leading to work they were interested in for the future. (National Center for Educational Statistics. *National Longitudinal Study of the High School Class of 1972: A capsule description of high school seniors: Base year survey.* Washington, DC: Author, 1974.)

It seems likely that this could be accomplished largely by sharpening education's focus on the development of such skills, without drastic revision of curriculum content. Increasing focus on process skills should serve both to enhance their occupational transferability and to help insure correct application of knowledge. However, ways of communicating these achievements to students and to the employing community would need to be developed.

If the growth and development of transferable skills is acknowledged to be a lifelong process, it follows that their development is not the sole responsibility of vocational or any other single level or sector of education. Vocational education as presently constituted limits the contexts in which skills are developed. To enhance student's skill potential, contexts should be kept as broad and numerous as possible, consistent with the time available and the realistic needs for graduates to have specialized job skills prior to employment.

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APPENDIX B

Conference Sites and Related Information

	Place and Date	Local Coordinator
1	Columbus, Ohio April 29, 1976	—
2	Milwaukee, Wisconsin May 11, 1976	Frederick C. Mulcahy Assistant to the District Director Milwaukee Area Technical College
3	Fargo, North Dakota May 13, 1976	Lyle C. Sorum Assistant Superintendent Vocational Education Fargo Public Schools
4	San Diego, California August 24, 1976	Ronald L. Detrick Director, Career Education San Diego City School
5	Salt Lake City, Utah August 26, 1976	Jack C. Higbee Executive Director Utah Advisory Council for Vocational and Technical Education
6	Gulf Shores, Alabama October 20, 1976	Walter M. Birdsall Military Testing Association Conference Coordinator
7	Atlanta, Georgia October 21, 1976	E. Curtis Henson Assistant Superintendent for Post Secondary and Adult Education Atlanta Public Schools
8	Niagara Falls, New York October 27, 1976	Donald M. Clark Executive Director Niagara Falls Industry-Education Council
9	New York City, New York October 29, 1976	Edward O. Malott, Jr. Vice President for Planning and Development American Management Associations

APPENDIX C

Conference Participant Affiliations and Functions

Industry Affiliation or Function	Number of Persons
Industry Affiliation	
Education	26
Service	20
Government	14
Manufacturing	13
Transportation, Communications, and Public Utilities	10
Finance, Insurance, and Real Estate	7
Wholesale and Retail Trade	2
Construction	1
Other	10
Function	
Personnel Officer	27
Industrial Trainer/Developer	13
Administrator (Vocational and Technical Education Institution)	10
Management Training Specialist	8
Instructor (Vocational, Technical, and Job Training)	7
Vocational Guidance Counselor	7
Employment Counselor	7
Educator (Non-Vocational)	5
General Manager (Business and Industry)	3
Occupational Analyst (Military)	3
Representative of Labor Organization	2
Representative of Employer Organization	2
Other	9

Note. The industry categories used above are self explanatory with the following exceptions. The education category includes those employed by public schools in instructional staff and administration capacities. Service includes health and technical services, lodging, etc. Government includes those employed by all levels of government and the military services.

APPENDIX D

Examples of Dissimilar Jobs and Skills Reported as Useful to Both

Dissimilar Jobs	Skills Used in Both
Grill Cook, Guidance Counselor	working with people planning work
Repair Parts Clerk, Personnel Supervisor	speaking with people problem solving priority setting (decision making)
Musician, Training Director	organizing time communications (oral and written)
Construction Equipment Operator, Business Organization Official	relating to and getting along with people
Educator, Ranch Operator	organizing and planning time supervision responsibility credibility computation budgeting relating to people ability to transfer skills
Coal Miner, College Professor	diligence common sense
Entomologist, Group Organizer for Migrant Workers	look at a problem systematically understand people conceptualize environment
Salesman, College Professor	communication analyzing, synthesizing generalizing perceiving individual differences enthusiasm contemplation
Narcotics Agent, Teacher	communications writing analysis of people and situations

REPORTS ON OCCUPATIONALLY TRANSFERABLE SKILLS

McKinlay, B. *Characteristics of jobs that are considered common: Review of literature and research* (Info. Series No. 102), 1976. ($3.80)

A review of various approaches for classifying or clustering jobs, and their use in (a) describing the elements of commonality involved when people make career changes, and (b) understanding better the concepts of occupational adaptability and skill transfer.

Altman, J.W. *Transferability of vocational skills: Review of literature and research* (Info. Series No. 103), 1976. ($3.80)

A review of what is known about the transferability of occupational skills, describing the process or the facilitators of skill transfer.

Sjogren, D. *Occupationally transferable skills and characteristics: Review of literature and research.* (Info. Series No. 105), 1977. ($2.80)

A review of what is known about the range of occupation-related skills and characteristics that could be considered transferable from one occupation to another, describing those transferable skills which are teachable in secondary and postsecondary career preparation programs.

Ashley, W.L. *Occupational information resources: A catalog of data bases and classification schemes* (Info. Series No. 104), 1977. ($18.20)

A quick and concise reference to the content of 55 existing occupational data bases and 24 job classification schemes. Abstracts of each data base and classification scheme include such information as: identification, investigator, location, documentation, access, design information, subject variables, occupation variables, and organization variables.

Wiant, A.A. *Transferable skills: The employer's viewpoint* (Info. Series No. 126), 1977.

A report of the views expressed in nine meetings across the country by groups of local community and business representatives concerning the types of transferable skills required and useful in their work settings and how a better understanding of transferable skills could improve training and occupational adaptability.

Miguel, R.J. *Developing skills for occupational transferability: Insights gained from current practice* (Info. Series No. 125), 1977.

A report of clues and suggestions gained in the review of 14 existing training programs, with recommendations for practice which appear to have been successful in recognizing skill transfer and taking advantage of an individual's prior skills and experience.

Ashley, W.L., & Ammerman, H.L. *Identifying transferable skills: A task classification approach* (Occasional Paper No.), 1977.

A report of an exploratory study designed to test the usefulness of five classification schemes in identifying the transferable characteristics of tasks in diverse occupations.

Pratzner, F.C. *Occupational adaptability and transferable skills: A summary report of the project* (Info. Series No.), 1977.

A summary final report, presenting and discussing an array of issues encountered in the various project activities, and offering recommendations.

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